



Earl F. Weener, Ph.D.
Board Member

NTSB National Transportation Safety Board

NTSB

Most Wanted List

National Private Truck Council

Washington, DC

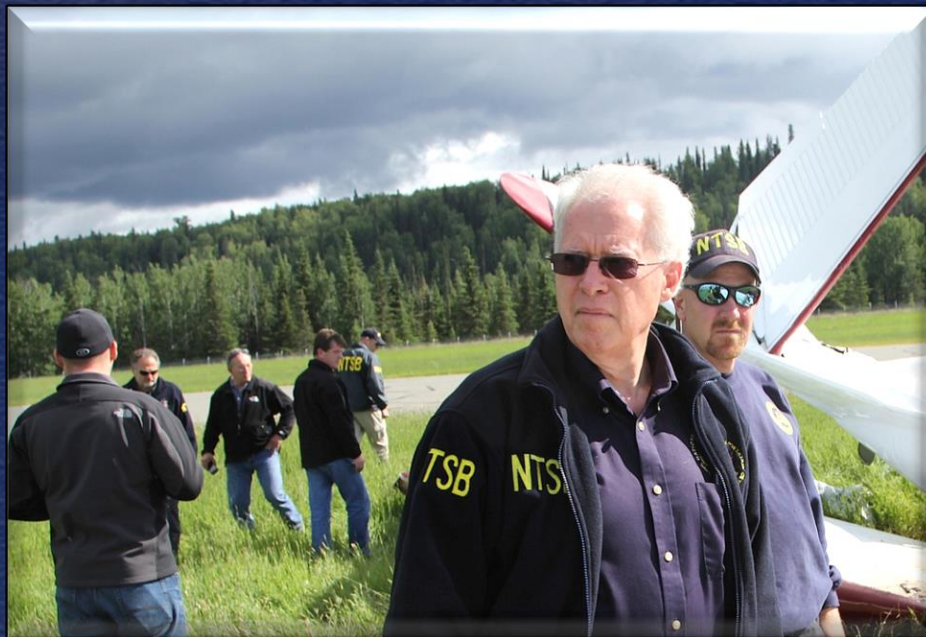
September 15, 2016

NTSB Mission

The NTSB is an independent U.S. Federal agency charged with determining the probable cause(s) of transportation accidents (aviation, rail, highway, marine & pipeline), making recommendations to prevent their recurrence, conducting special studies and investigations, and coordinating resources to assist victims and their families after an accident.

NTSB's Multi-Modal Mandate

- Maintain congressionally mandated independence/objectivity
- Conduct objective accident investigations and safety studies
- Perform fair & objective airman/mariner certification appeals
- Advocate safety – NTSB Most Wanted List, recommendations



NTSB 2016 Most Wanted List



- Disconnect from Deadly Distractions
- End Substance Impairment in Transportation
- Expand Use of Recorders to Enhance Transportation Safety
- Improve Rail Transit Safety Oversight
- Prevent Loss of Control in Flight in General Aviation
- Promote Availability of Collision Avoidance Technologies in Highway Vehicles
- Promote the Completion of Rail Safety Initiatives
- Reduce Fatigue-Related Accidents
- Require Medical Fitness for Duty
- Strengthen Occupant Protection

Distraction



Distraction



Distraction



2016 MWL - *Disconnect from Deadly Distractions*

- Distraction is a factor in all modes of transportation
- Motor vehicle emphasis is on electronic devices within the vehicle
- Despite CMV hands-free mandate, distraction related crashes occur

Gray Summit, MO – bus/vehicle/truck crash



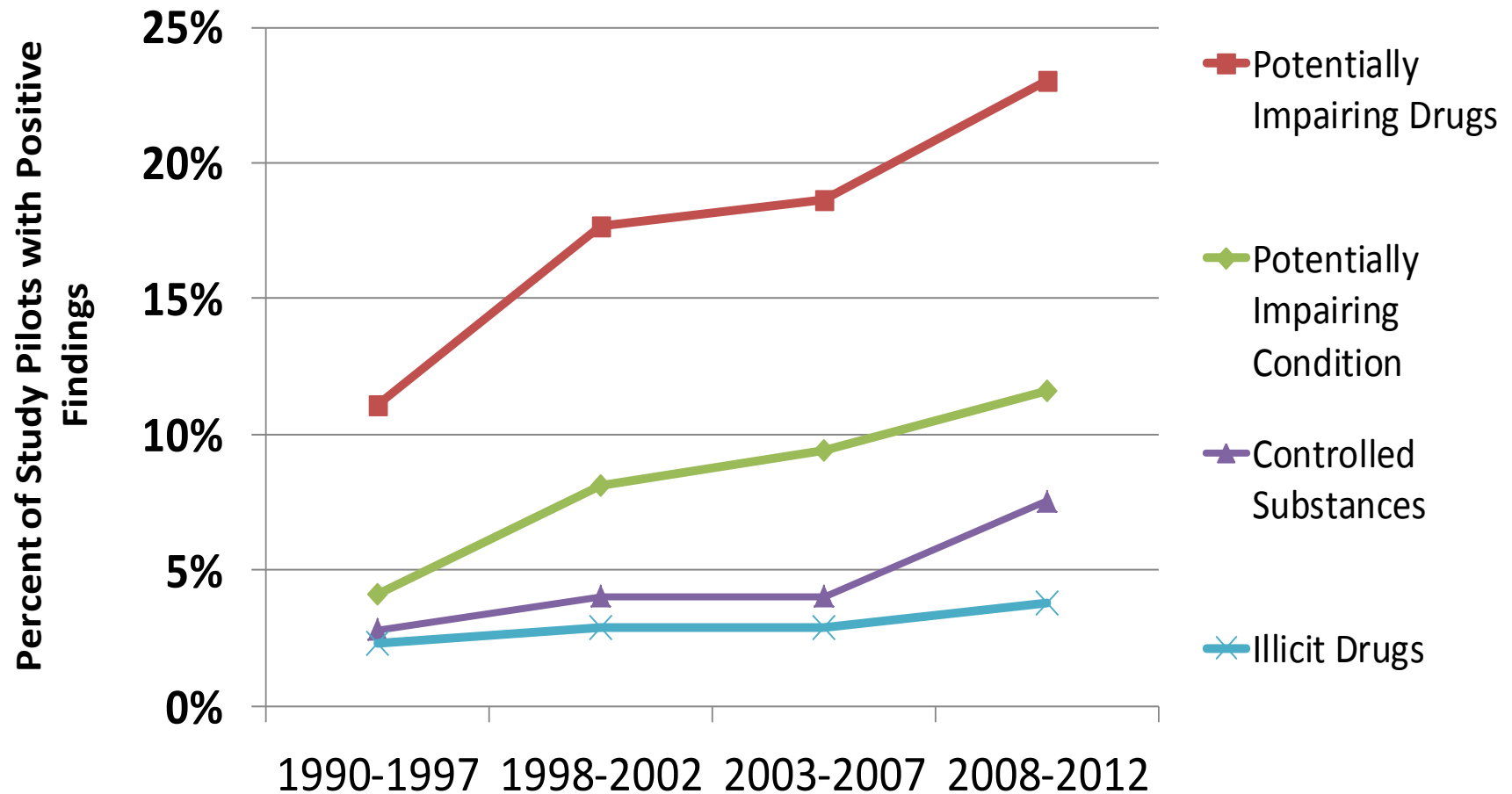
Impairment



2016 MWL - *End Substance Impairment in Transportation*

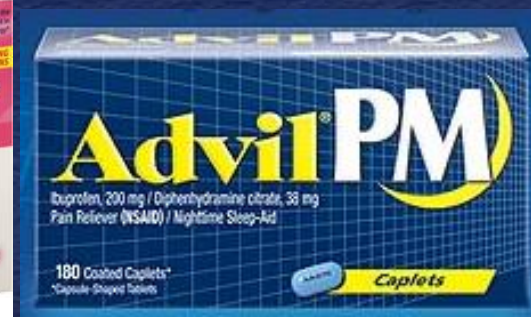
- A factor in all modes
- Data from pilots show overall trend
 - 11% average 1990 - 1997
 - 23% average 2008 – 2012
- Drivers
- Commercial drivers

Toxicology Findings by Category, 1990-2012



Most Common Drugs

- Sedating antihistamines
 - Most common category
- Diphenhydramine
 - Most common individual drug
 - Most common potentially impairing drug
 - Use INCREASING



Drug Facts

Active ingredient (in each capsule)

Diphenhydramine HCl 25 mg.....

Purpose

Antihistamine

Uses

- temporarily relieves these symptoms due to hay fever or other upper respiratory allergies:
 - runny nose
 - sneezing
 - itchy, watery eyes
 - itching of the nose or throat
- temporarily relieves these symptoms due to the common cold:
 - runny nose
 - sneezing

Warnings

Do not use with any other product containing diphenhydramine, even one used on skin

Ask a doctor before use if you have

- a breathing problem such as emphysema or chronic bronchitis
- glaucoma
- trouble urinating due to an enlarged prostate gland

Ask a doctor before use if you are taking sedatives or tranquilizers

When using this product

- marked drowsiness may occur
- avoid alcoholic drinks
- alcohol, sedatives, and tranquilizers may increase drowsiness
- be careful when driving a motor vehicle or operating machinery
- excitability may occur, especially in children

If pregnant or breast-feeding, ask a health professional before use.

Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away. (1-800-222-1222)

Directions

- take every 4 to 6 hours
- do not take more than 6 doses in 24 hours

adults and children 12 years and over	1 to 2 capsules
children 6 to under 12 years	1 capsule
children under 6 years	do not use this product in children under 6 years of age

Other information

- store at 59° to 77°F in a dry place. Protect from heat, humidity, and light.
- **do not use if carton is open or blister unit is broken**
- see side panel for lot number and expiration date

Medical Fitness for Duty



Fitness for Duty



2016 MWL – *Require Medical Fitness for Duty*

- A factor in all modes
- Most CMV operators must be medically qualified
- Undiagnosed or unreported medical conditions pose threats
 - Obstructive Sleep Apnea
 - Diabetes
 - High Blood Pressure

Fatigue



2016 MWL - *Reduce Fatigue - Related Accidents*

- A factor in all modes of transportation
- Hours of service, on/off duty policies
- Electronic logs
- Quality of rest
- Medical treatment of sleep disorders

Bronx Bus Crash, March 12, 2011



15 KILLED
17 INJURED

Cranbury, New Jersey, June 7, 2014



6 VEHICLES

21 PEOPLE

5 RECEIVED MINOR INJURIES

4 RECEIVED SERIOUS INJURIES

1 PERSON KILLED

2016 MWL – Occupant Protection

- ***Strengthen Occupant Protection***
 - A factor in all modes
 - Numerous investigations showed potential for reduced injuries & fatalities
 - CMV occupant use of seatbelt still slightly lower than passenger
 - Fleet higher than owner operator
 - New FMCSA requirements that passengers must also wear seat belts

Recorders



2016 MWL - *Expand Use of Recorders to Enhance Transportation Safety*

- A factor in all modes
- Can be critical in CMV accident investigation
- Works best in combination with inward and outward facing cameras

2016 MWL – Promote Availability of Collision Avoidance Technologies (CAT) in Highway Vehicles

- Addresses
 - impairment, fatigue, medical conditions, or distraction
- Manufacturers working to make CAT standard equipment on passenger vehicles

Types of Crash Avoidance Technologies

- Alerts
 - Lane Departure Warning
 - Stationary Object Alert
 - Following Distance Alert
- Interventions
 - Automatic Braking
 - Automatic Steering Assist

Benefits of Crash Avoidance Technologies

- Will prevent or mitigate the severity of crashes
 - Reduce injuries and deaths
 - Save \$\$\$
- Alerts may be used by employers to monitor driver behavior to identify training opportunities
- Drivers may self-correct behavior

Questions About Crash Avoidance Technologies

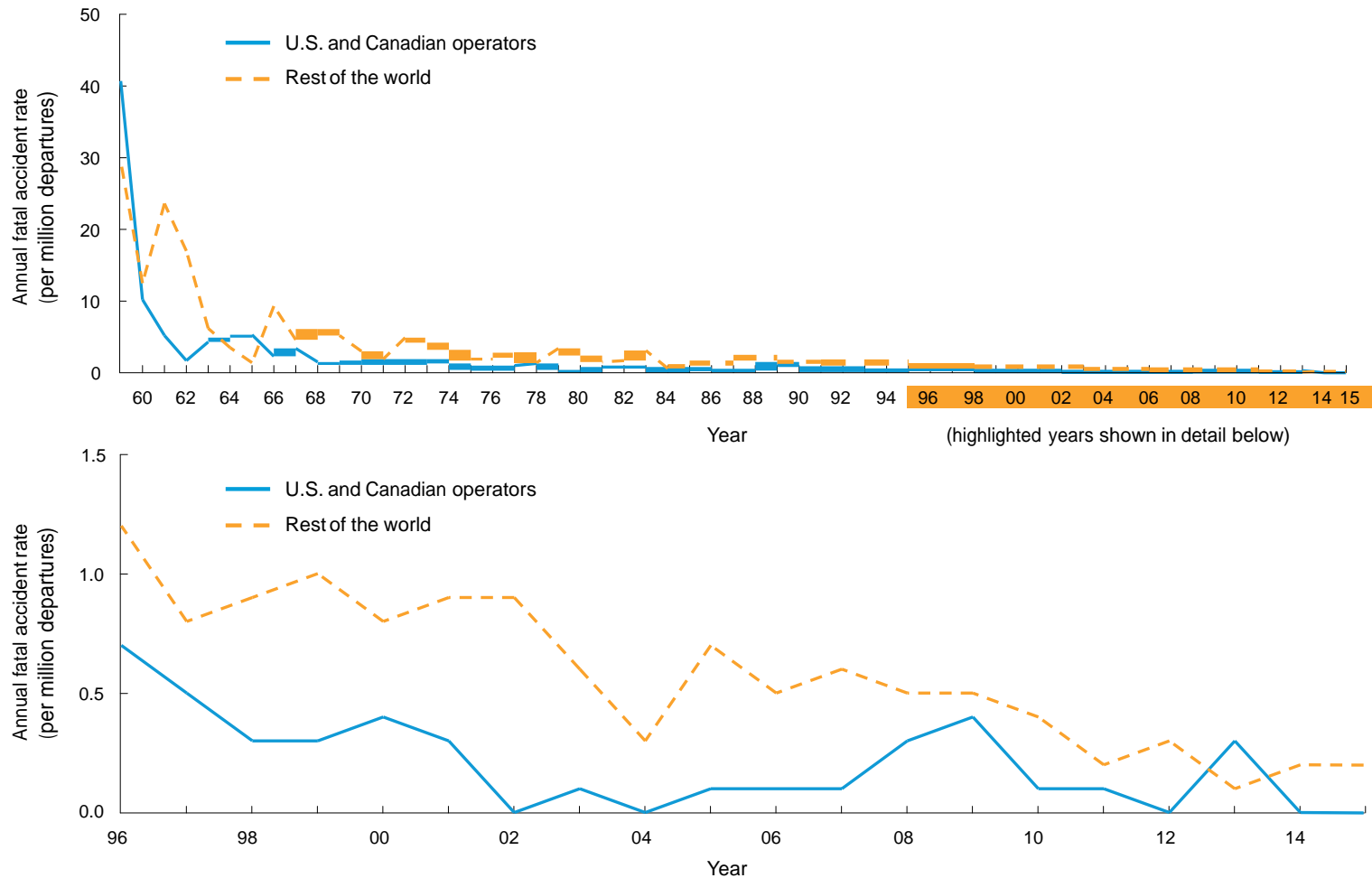
- Not standard equipment in all new large trucks and buses
- Many older vehicles still in commercial fleets
- Impact of false alerts
- Drivers are reluctant/may disable technology

Lessons Learned from Aviation

- Crashes can effect the broader trucking community
- Behavior can never fully be controlled
- Technology provides safeguard against human error

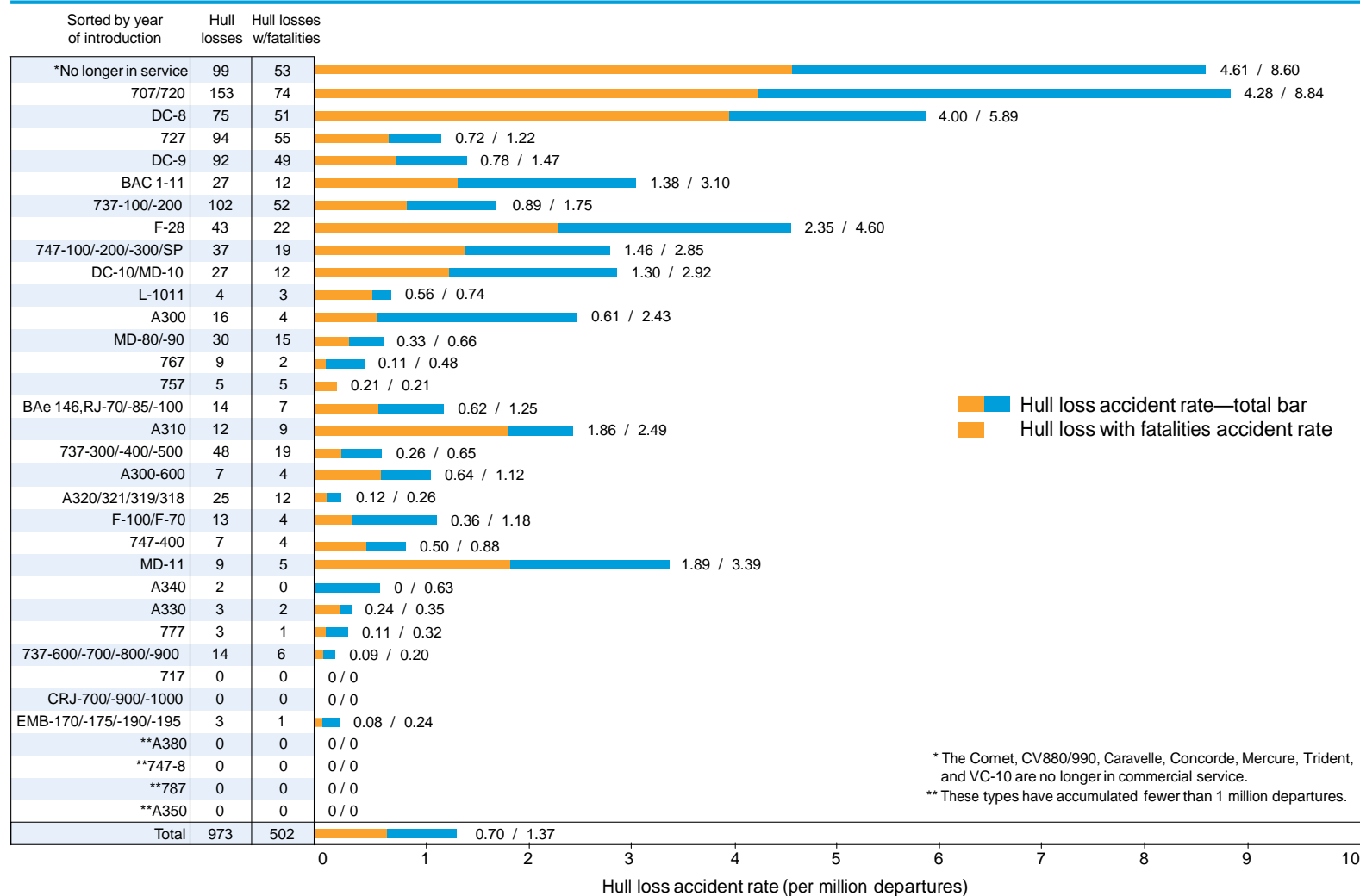
U.S. and Canadian Operators Accident Rates by Year

Fatal Accidents | Worldwide Commercial Jet Fleet | 1959 through 2015

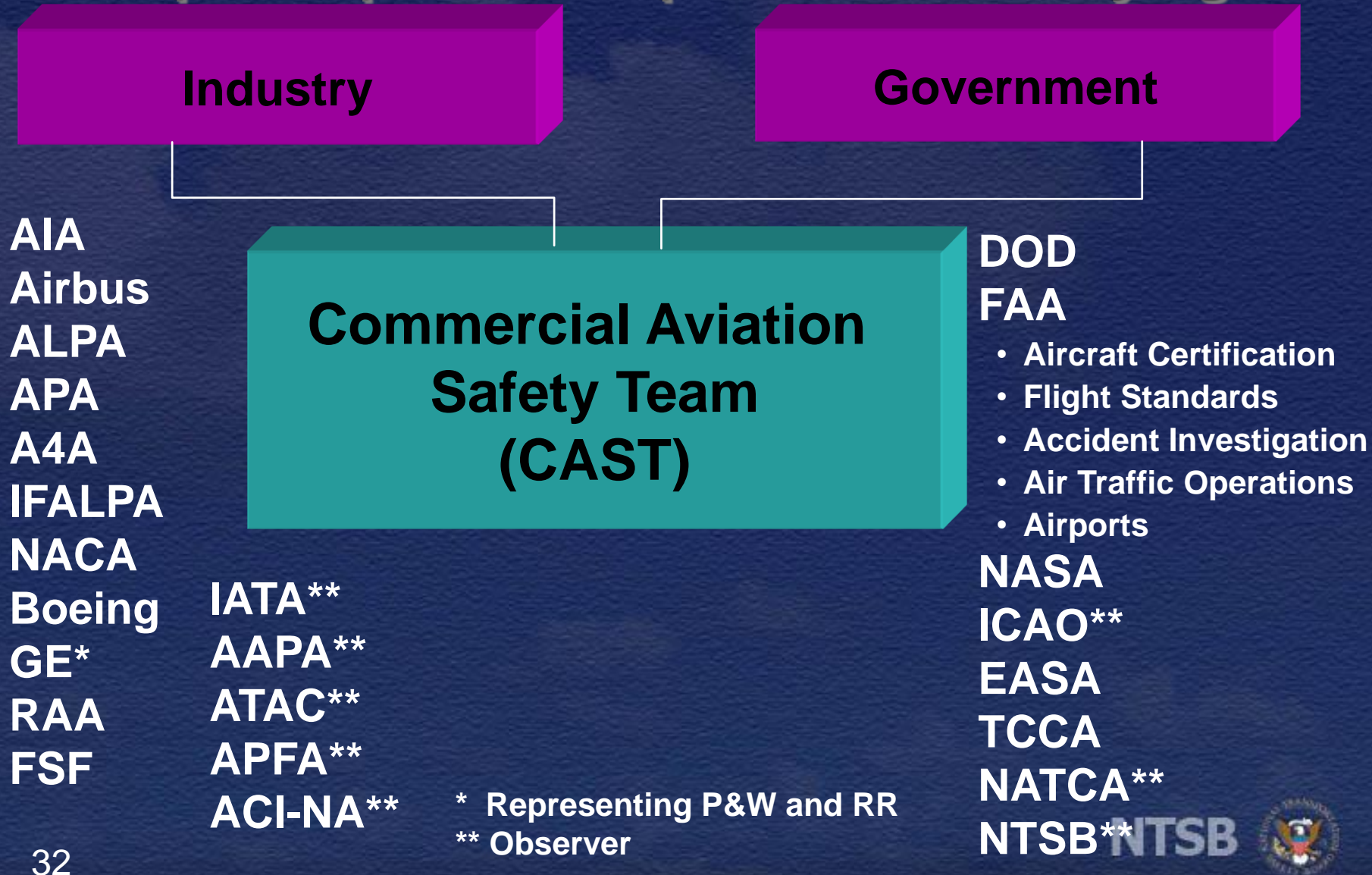


Accident Rates by Airplane Type

Hull Loss Accidents | Worldwide Commercial Jet Fleet | 1959 through 2015



CAST brings key stakeholders to cooperatively develop & implement a prioritized safety agenda



ASIAS Members

Commercial Air Carriers (46)

ABX Air	ExpressJet	PSA Airlines
Aerodynamics, Inc.	FedEx Express	Republic Airlines
Air Transport Intl.	Frontier Airlines	Shuttle America
Air Wisconsin Airlines	GoJet Airlines	Silver Airways
Alaska Airlines	Hawaiian Airlines	SkyWest Airlines
Allegiant Air	Horizon Air	Southern Air
Aloha Air Cargo	JetBlue Airways	Southwest Airlines
American Airlines	Kalitta Air	Spirit Airlines
Atlas Air	Mesa Airlines	Sun Country Airlines
Cape Air	Miami Air Intl.	Swift Air
CommutAir	Mountain Air Cargo	Trans States Airlines
Compass Airlines	National Airlines	United Airlines
Delta Air Lines	Northern Air Cargo	United Parcel Service
Empire Airlines	Omni Air Intl.	Virgin America
Endeavor Air	Piedmont Airlines	
Envoy Air	Polar Air Cargo	

Industry

A4A—Airlines for America	NACA—National Air Carrier Association
AIA—Aerospace Industries Association	NATCA—National Air Traffic Controllers Association
Airbus	RAA—Regional Airline Association
ALPA—Air Line Pilots Association	SAPA—SkyWest Airlines Pilot Association
APA—Allied Pilots Association representing Coalition of Airline Pilots Associations (CAPA)	SWAPA—Southwest Airlines Pilots' Association
Boeing	

General Aviation Operators (30)

Costco Wholesale*	NetJets
Eli Lilly	Northeastern Aviation Corp
Embraer Executive Jets	REVA
Flexjet	Vulcan, Inc.
Flight Options	XOJET
Gama Aviation	18 additional Operators*
Johnson & Johnson	

Industry

ACSF—Air Charter Safety Foundation	NBAA—National Business Aviation Association
Embraer	NJASAP—NetJets Association of Shared Aircraft Pilots
GAMA—General Aviation Manufacturers Association	
Gulfstream Aerospace	

Maintenance, Repair & Overhaul

AAR Aircraft Services	HAECO Americas
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Government

AMC—Air Mobility Command	Naval Air Force Atlantic
FAA	USAF Safety Center
NASA	

Academia

University of North Dakota

*Newest Member

As of 22 August 2016

What Can Employers Do?

- Require crash avoidance technology in all new fleet purchases
- Educate drivers about technology available in commercial (and personal) vehicles and its proper use and benefits
- Encourage continuous use of installed technologies
- Take advantage of opportunities to collaborate on safety related issues

Safety Management System

- Safety Policy
- Safety Risk Management
- Safety Assurance
- Safety Promotion

Changes to Safety Culture

Reactive & forensic

- Whack-a-mole management
- Crisis safety management
- Silos of knowledge
- Data is collected

Risk-based & predictive

- Risk management
- Change management
- Data analysis and information sharing
- Data answers questions

Changes to Safety Culture

Reactive & forensic

- “Off with their heads”
- Safety organization responsible for safety
- Regulator is dictatorial and despised
- Safety expected by regulations

Risk-based & predictive

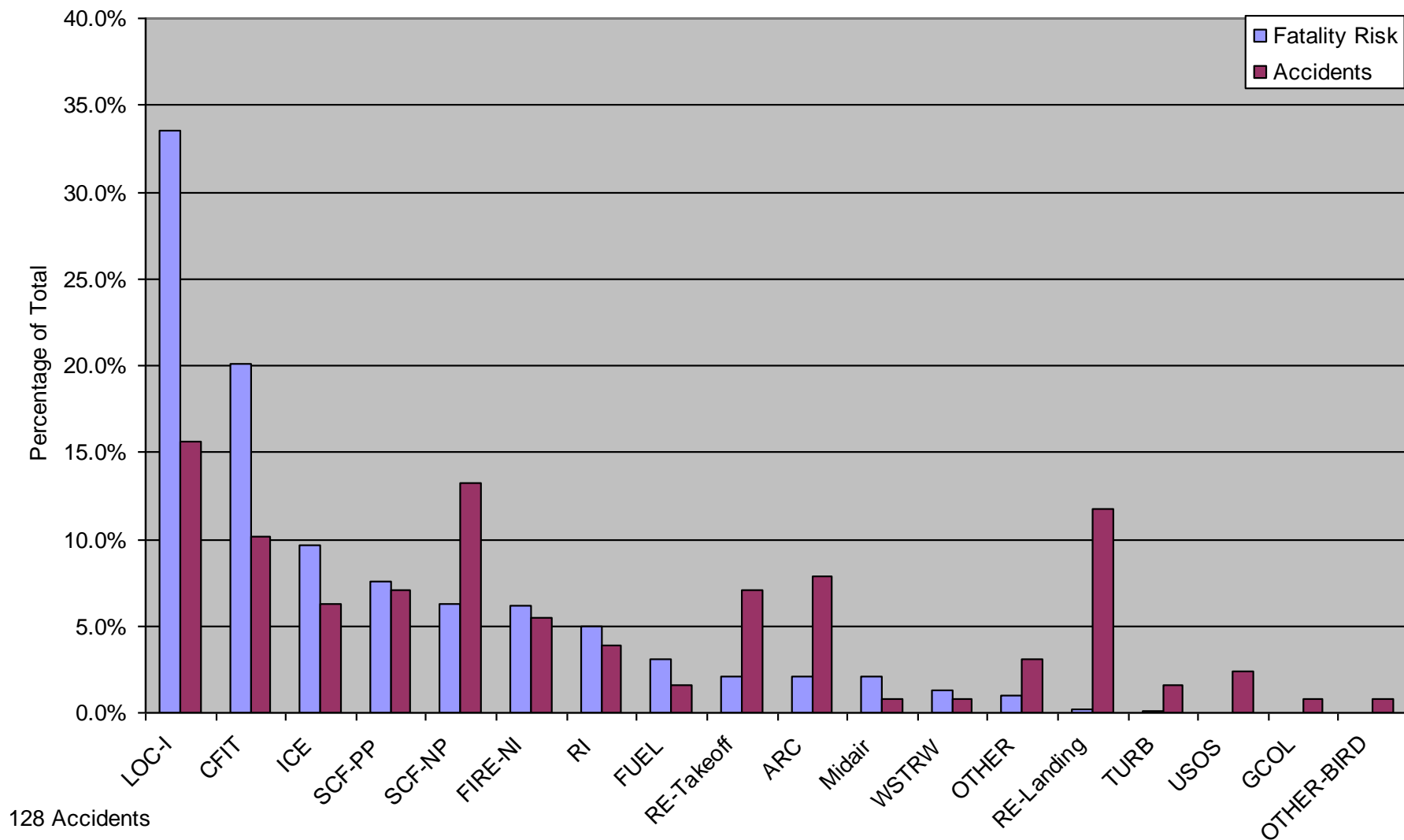
- Just culture
- Everyone responsible for safety
- Regulator is collaborative and respected
- Safety enhanced via voluntary initiatives

QUESTIONS OR COMMENTS?

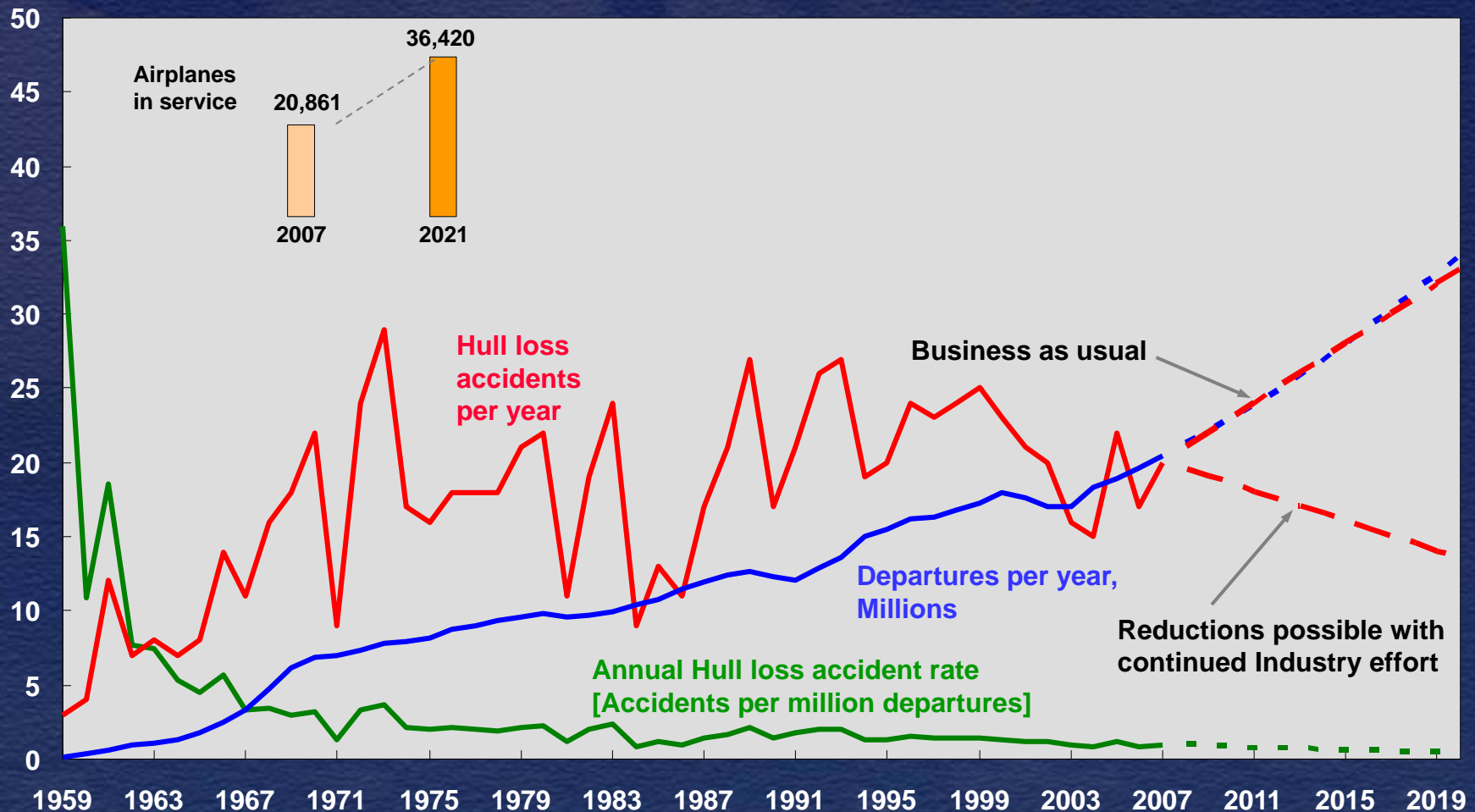


NTSB

1987-2011 Part 121 Hull Loss and Fatal Accidents



We Need to Continuously Improve Aviation Safety



Note: All departures after 2007 are estimated